



Optical Encoders

SERIES 62N

1/2" Package, non-turn, Dedicated Shaft

FEATURES

- Non-turn Pushbutton to Ensure Pushbutton Text and Orientation
- Separate Pushbutton Function
- Low Cost
- Economical Size
- Optically Coupled for More than a Million Cycles
- Compatible with CMOS, TTL and HCMOS Logic

- Available in 12, 16, 24, and 32 Detent Positions (Non-detent also available)

- Choices of Cable Length and Terminations

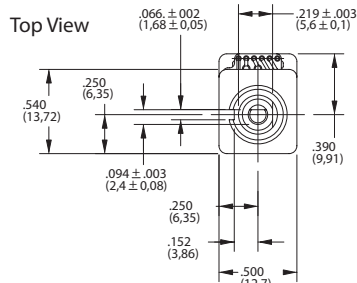
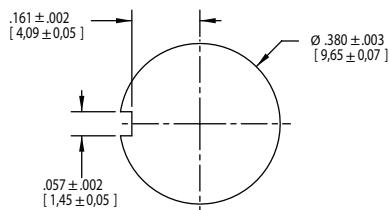
APPLICATIONS

- Global Positioning/Driver Information Systems
- Medical Equipment
- Cockpit Controls



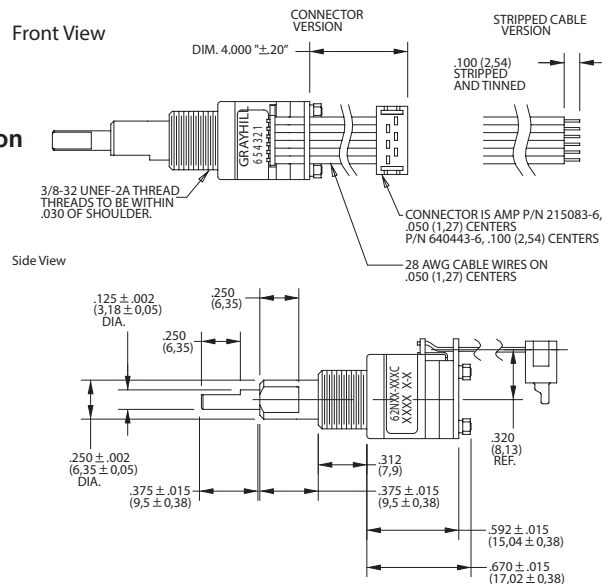
DIMENSIONS in inches (and millimeters)

RECOMMENDED PANEL CUTOUT



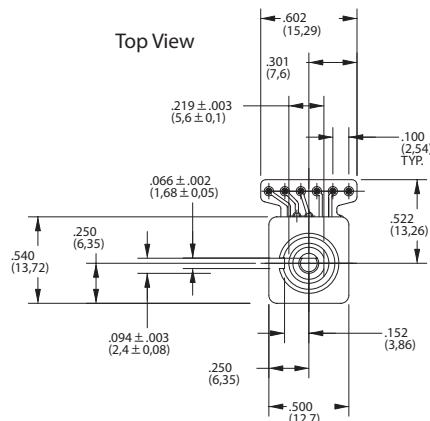
Front View

Cable Version

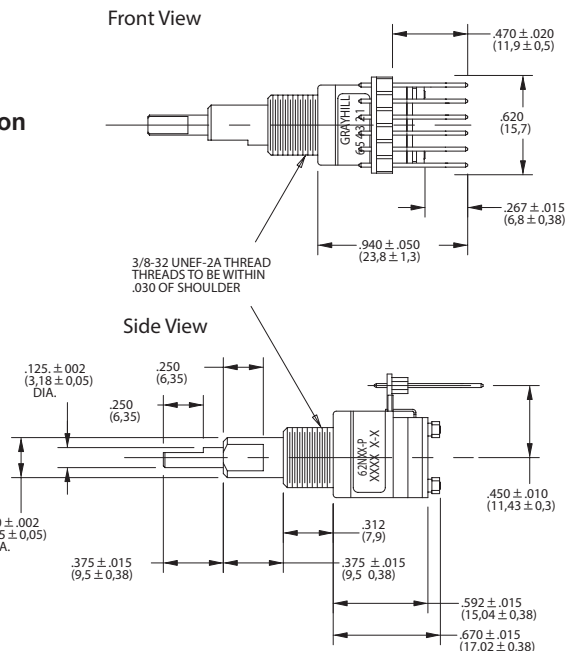


Side View

Pin Version



Front View



Side View

Unless otherwise specified, standard tolerances are ± 0.10 (0.25)

SPECIFICATIONS

Pushbutton Switch Ratings

Rating: at 5 Vdc, 10 mA, resistive

Contact Resistance: less than 10 ohms (TTL or CMOS compatible)

Pushbutton Life: 3 million actuations minimum

Voltage Breakdown: 250 Vac between mutually insulated parts

Contact Bounce: less than 4 mS at make and less than 10 mS at break

Actuation Force: 1000 ±300g

Pushbutton Travel: .010/.025 inch

Encoder Ratings

Coding: 2-bit quadrature coded output

Operating Voltage: 5.0 ±.25 Vdc

Supply Current: 30 mA maximum@5.0 Vdc

Logic Output Characteristics:

Logic High: 3.8 Vdc minimum

Logic Low: 0.8 Vdc maximum

Mechanical Life: 1,000,000 cycles minimum (One cycle is a rotation through all positions and a full return)

Minimum Sink Current: 2.0 mA for 5 Vdc

Power Consumption: 150mW maximum

Output: open collector phototransistor

Logic Rise and Fall Times: less than 30 mS maximum

Operating Torque:

Detent: 2.0 in-oz ±70% initially

Non-Detent: less than 1.5 in-oz initially

Shaft Push Out Force: 45 lbs minimum

Mounting Torque: 15 in-lbs maximum

Terminal Strength: 15 lbs cable pull-out force minimum

Operating Speed: 100 RPM maximum

Environmental Ratings

Operating Temperature Range: -40°C to 85°C

Storage Temperature Range: -55°C to 100°C

Vibration Resistance: Harmonic motion with amplitude of 15G, within a varied 10 to 2000 Hz frequency for 12 hours

Mechanical Shock: Test 1: 100G, 6 mS, half sine, 12.3 ft/s; Test 2: 100G, 6 mS, sawtooth, 9.7 ft/s

Relative Humidity: 90–95% at 40°C for 96 hours

Materials and Finishes

Code Housing: Reinforced thermoplastic

Shafts: Aluminum

Bushing: Zinc casting

Shaft Retaining Ring: Stainless steel

Detent Spring: Stainless steel

Printed Circuit Boards: NEMA grade FR-4

gold over nickel or palladium

Terminals: Brass, tin-plated

Mounting Hardware: One brass, nickel-plated nut and zinc-plated spring steel with clear trivalent chromate finish lockwasher supplied with each switch. (Nut is 0.094 inches thick by 0.433 inches across flats)

Rotor: Thermoplastic

Code Housing: Thermoplastic

Pushbutton Dome: Stainless steel

Dome Retaining Disk: Thermoplastic

Pushbutton Housing: Thermoplastic

Phototransistor: Planar Silicon NPN

Infrared Emitter: Gallium aluminum arsenide

Pushbutton Contact: Brass, nickel-plated

Flex Cable: 28 AWG, stranded/top coated wire, PVC coated on .050 or .100" centers (cabled version)

Header Pins: Phosphor bronze, tin-plated

Spacer: Thermoplastic

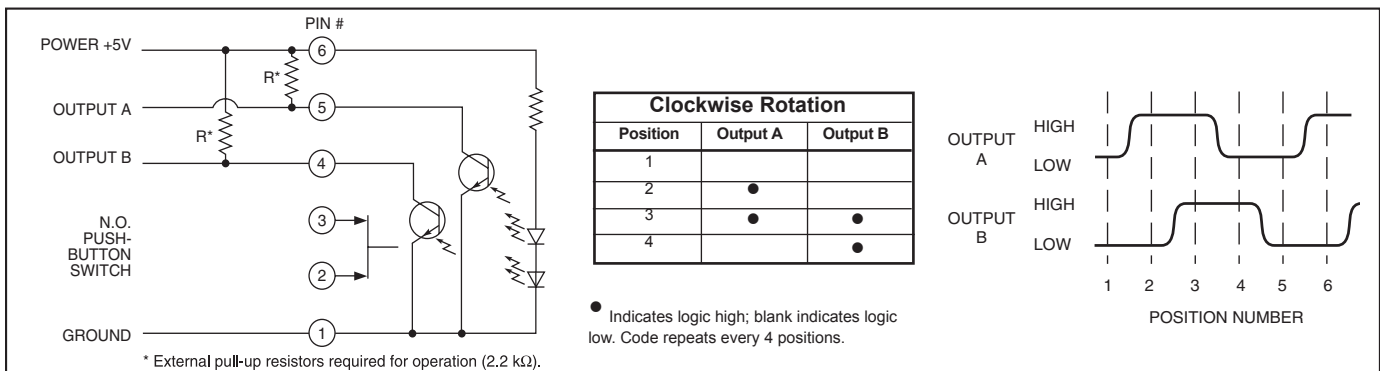
Endcap: Thermoplastic

Non-turn Pin: Stainless steel

Backplate/Strain Relief: Stainless steel

Studs: Stainless steel

CIRCUITRY, TRUTH TABLE, AND WAVEFORM Standard Quadrature 2-Bit Code



ORDERING INFORMATION

